AMENDMENTS

In the specification

Please insert the following paragraph on page 1 between lines 1-2

This application is a continuation of pending U.S. Application Serial No. 10/227,738 filed August 26, 2003, which is a continuation of 09/663,147 filed September 15, 2000, now abandoned, which is a continuation of U.S. Patent Application Serial No. 08/800,593 filed February 18, 1997, now U.S. Patent No. 6,143,505, which is a divisional of U.S. Patent Application Serial No. 08/317,450 filed October 4, 1994, now U.S. Patent No. 5,660,982.

Please replace the paragraph on page 1 lines 12-25 with the following:

Kalinin/laminin-5 (most likely also identical to the adhesion molecule nicein) is a recently identified laminin isoform which is a functional adhesion component for epithelial cells (Tryggvason, 1993, supra; Burgeson, et al., 1994, supra; Rousselle, et al., J. Cell. Bio., 1991, **114**: 567-576; Kallunki, et al., J. Cell Biol., 1992, **119**: 679-693; Marinkovich, et al., J. Biol. Chem., 1992, **267**: 17900-17906; Vailly, et al., Eur. J. Biochem., 1994, **219**: 209218). Kalinin/laminin-5 contains unique laminin **variant** [~~varient~~] chains, one of which, the γ2 chain, has been cloned and sequenced (Kallunki, et al., 1992, supra, previously named B2t). The γ2 chain has a mass of ~ 130 kd and is thus smaller than the "classical" ~ 200 kd β1 and γ1 light chains of laminin. The domain structure of the γ2 chain also differs from that of the γ1 chain in that it lacks the amino-terminal globular domain (domain VI) believed to function in intermolecular cross-linking of laminin molecules to form networks (Yurchenco and O'Rear, in Molecular and Cellular Aspects of Basement Membranes, 1993, (Ed. Rohrbach and Timpl, Academic Press, San Diego, pp. 20-47). In addition, domains III, IV, and V (containing EGF-like repeats) in γ2 are shorter than in the γ1 chain (Kallunki, et al., 1992, supra).

Please replace the paragraph on page 3 lines 23-25 with the following:

Figure 2**A-G'** shows In situ hybridization for γ2 chain mRNA on sections of ductal mammary carcinoma (2A-**2A'**), malignant melanoma (2B-**B'**), squamous cell carcinoma of the skin (2C-**C'**,

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Figure 2**A-G'** shows In situ hybridization for γ2 chain mRNA on sections of ductal mammary carcinoma (2A-**2A'**), malignant melanoma (2B-**B'**), squamous cell carcinoma of the skin (2C-**C'**, 2D-**D'**), and squamous cell carcinoma of the vulva (2E-**E' and** 2G-**G'**). Magnification: 2C-**C'** x 100, all others x 640.

Please replace the paragraph on page 3 lines 27-29 with the following:

Figure 3**A-A'** is incisionally wounded mouse skin (72 hours after wounding) showing signal for γ2 chain in keratinocytes at the leading edge of the migrating epithelium (curved arrow). Magnification: x 640.

Please replace the paragraph on page 3 lines 31-36 with the following:

Figure 4 shows the **nucleic** [~~nucelic~~] acid sequence for the γ2 chain cDNA and the derived amino acid sequence. Figure 4A is the full cDNA for the 5,200 base pair sequence, available from EMB/GenBank/DDBJ under the accession number Z15008. Figure 4B is the nucleotide and derived amino acid sequence of the alternative 3' end sequence from cDNA clones providing a sequence of 4,316 base pairs, available from EMB/GenBank/DDBJ under the accession number Z15009. (Kallunki, et al., 1992, supra.)

Please replace the paragraphs on page 7 line 34 to page 8 line 8 with the following:

DNA isolated either from fibroblast cultures or from specimens obtained from buccal smears, was used as template for amplification of genomic sequences. For amplification of introns 8 and 16, ~500 ng of genomic DNA was used as template and the following oligomer primers were utilized.

5' GGCTCACCAAGACTTACACA 3' **(SEQ ID NO: 1)**;

5' GAATCACTGAGCAGCTGAAC 3' **(SEQ ID NO: 2)**;

5' CAGTACCAGAACCGAGTTCG 3' **(SEQ ID NO: 3)**;

5' CTGGTTACCAGGCTTGAGAG 3' **(SEQ ID NO. 4)**;

5' TTACTGCGGAATCTCACAGC 3' **(SEQ ID NO: 5)**;

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5' TACACTGTTCAACCCAGGGT 3' **(SEQ ID NO: 6)**;

5' AAACAAGCCCTCTCACTGGT 3' **(SEQ ID NO: 7)**;

5' GCGGAGACTGTGCTGATAAG 3' **(SEQ ID NO: 8)**;

5' CATACCTCTCTACATGGCAT 3' **(SEQ ID NO: 9)**;

5' AGTCTCGCTGAATCTCTCTT 3' **(SEQ ID NO: 10)**;

5' TTACAACTAGCATGGTGCCC 3' **(SEQ ID NO: 11)**;

Please replace the paragraphs on page 10 lines 21-33 with the following:

RT-PCR and heteroduplex analysis (MDE)

50 μg of total RNA isolated from cultured keratinocytes from JEB patient, and unrelated healthy controls were reverse transcribed in a volume of 100 μL as recommended by the manufacturer (BRL). 1 μL of the reaction product was used to amplify overlapping regions of the cDNA that spanned the open reading frame. Primer pair used to identify the mutation R95X: (L) 5'-GAGCGCAGAGTGAGAACCAC-3' **SEQ ID NO: 16**, (R) 5'-ACTGTATTCTGCAGAGCTGC-3' **SEQ ID NO: 17**. PCR cycling conditions were: 94 C, 5 min, followed by 94 C, 45 sec; 60 C, 45 sec; 72 C, 45 sec; for 35 cycles, and extension at 72 C for 5 min. 5 μL aliquots were run in 2% agarose gels. Heteroduplex analysis was performed as recommended by the manufacturer (MDE, AT Biochemicals). Heteroduplexes were visualized under UV light in the presence of ethidium bromide and photographed. Amplified cDNA fragments with altered mobility were subcloned into the TA vector according to the manufacturer's recommendations (Invitrogen). Sequence analyses were then performed using standard techniques.

Please replace the paragraph on page 13 lines 29 to page 14 line 4 with the following:

Results: Laminin α1, β1, γ1, and γ2 chains

All rounds of *in **situ*** [~~*situr*~~] hybridization include both sense and anti-sense RNA probes for each of the genes studied. As negative controls, sense RNA probes are applied to adjacent sections

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and these probes consistently are negative. As a positive control of the γ2 chain hybridizations, two anti-sense probes derived from non-overlapping γ2 chain cDNA clones are used on a number of sections. To **summarize** [~~summarizes~~] the γ2 chain expression found; all carcinomas were positive except for one case of mammary duct carcinoma, and all three cases of leiomyosarcomas, both cases of malignant fibrous histiocytoma, and the only case of neurofibrosarcoma. The positive controls always gave similar staining on adjacent sections (see Figure 2, E and G). Fifteen of the malignant cases and all mouse tissue blocks were hybridized on two or more separate occasions giving the same hybridization pattern. All cell types other than those described below were negative in all cases.

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